



United States Standards for Grades of North American Freshwater Catfish and Products Made Therefrom

Scope and product description

(a) These U.S. Standards for Grades apply to products derived from farm-raised, or from rivers and lakes, North American freshwater catfish of the following common commercial species and hybrids thereof:

- (1) Channel catfish (*Ictalurus punctatus*)
- (2) White catfish (*Ictalurus catus*)
- (3) Blue catfish (*Ictalurus furcatus*)
- (4) Flathead catfish (*Pylodictis olivaris*)

(b) Fresh products will be packaged in accordance with good commercial practices and maintained at temperatures necessary for the preservation of the product. Frozen products will be frozen to 0°F (-18°C) at their center (thermal core) in accordance with good commercial practices and maintained at temperatures of 0°F (-18°C) or less.

(c) These Standards for Grades will be implemented in accordance with the guidance set forth in Part II of NOAA Handbook 25, “Inspectors Instructions for Grading North American Freshwater Catfish and Products Made Therefrom”.

(d) The product may contain bones when it is clearly labeled on the principle display panel to show that the product contains bones.

[52 FR 37155, Oct. 5, 1987, as amended at 55 FR 23551, June 11, 1990]

Product presentation

Catfish products may be presented and labeled as follows:

(a) Types-

- (1) Fresh, or
- (2) Frozen.

(b) Styles-

- (1) Skin on, or
- (2) Skinless.

(c) Market forms include but are not limited to the following:

- (1) Headed and gutted.
- (2) Headed and dressed or headed and gutted usually with fins removed. This form may be presented with or without the dorsal spine and with or without the collar bone.
- (3) Whole fillets are practically boneless pieces of fish cut parallel to the entire length of the backbone with the belly flaps and with or without the black membrane.
- (4) Trimmed fillets are whole fillets without belly flaps.



- (5) Fillet strips are strips of fillets weighing not less than $\frac{3}{4}$ ounce.
- (6) Steaks are units of fish not less than $1\frac{1}{2}$ ounces in weight which are sawn or cut approximately perpendicular (30 degrees to 90 degrees) to the axial length or backbone. They have two reasonably parallel surfaces. The number of tail sections that may be included in the package must not exceed the number of fish cut per package).
- (7) Nuggets are pieces of belly flaps with or without black membrane and weighing not less than $\frac{3}{4}$ ounce.

(d) Bone classifications.

- (1) Practically boneless fillet.
- (2) Bone-in (fillet cut, with bones.)

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Grades

- (a) U.S. Grade A fresh or frozen products will possess good flavor and odor and be within the limits specified for defects for U.S. Grade A quality in Grade Determination of this part.
- (b) U.S. Grade B fresh or frozen products will possess reasonably good flavor and odor and be within the limits specified for defects for U.S. Grade B quality in Grade Determination of this part.
- (c) U.S. Grade C fresh or frozen products will possess reasonably good flavor and odor and be within the limits specified for defects for U.S. Grade C quality in Grade Determination of this part.

Grade determination

- (a) *Procedures for grade determination.* The grade will be determined by evaluating the fresh product in the fresh and cooked states or the frozen product in the frozen, thawed, and cooked states in accordance with applicable paragraphs in this section.
- (b) *Sampling.* Lot size, number of sample units, and acceptance numbers will be selected in accordance with § 260.61 of this chapter, Tables II, V, or VI as applicable. A sample unit consists of 10 “portions” for market forms (1) and (2) as defined in Product Presentation(c) of this part, or at least 2 pounds of “portions” for market forms (3) through (7). “Portion” is one unit of any of the market forms.
- (c) *Evaluation of flavor and odor*
 - (1) *Definition of flavor and odor.*
 - (i) Good flavor and odor (minimum requirements for a Grade A product) mean that the product has the normal, pleasant flavor and odor characteristics of the species, and it is free from off-odors and off-flavors of any kind.
 - (ii) Reasonably good flavor and odor (minimum requirements of Grade B and Grade C products) mean that the product may be somewhat lacking in good flavor and odor characteristics of the species but it is free from objectionable off-odors and off-flavors of any kind.



(2) *Procedure.* For raw odor evaluation, frozen portions are thawed. Fresh or thawed portions are broken apart and the exposed flesh immediately held close to the nose to detect any off-odors. To evaluate cooked flavor and odor, cook the sample units using the procedure referenced in Method of Analysis of this part.

(d) *Examination for physical defects.* Each sample unit will be examined for physical defects using the defect definitions that follow. Deduction points are assigned in accordance with Table I.

(1) *Dehydration* applies to all frozen market forms. It refers to the loss of moisture from the surface resulting in a whitish, dry, or porous condition:

- (i) *Slight:* surface dehydration which is not color masking (readily removed by scraping) and affecting 3 to 10 percent of the surface area.
- (ii) *Moderate:* deep dehydration which is color masking, cannot be scraped off easily with a sharp instrument, and affects more than one percent but not more than 10 percent of the surface area.
- (iii) *Excessive:* deep dehydration which is color masking, and cannot be easily scraped off with a sharp instrument and affects more than 10 percent of the surface area.

(2) *Condition of the product* applies to all market forms. It refers to freedom from packaging defects, cracks in the surface of a frozen product, and excess moisture (drip) or blood inside the package. Deduction points are based on the degree of this defect.

- (i) Slight refers to a condition that is scarcely noticeable but that does not affect the appearance, desirability or eating quality of the product.
- (ii) Moderate refers to a condition that is conspicuously noticeable but that does not seriously affect the appearance, desirability, or eating quality of the product.
- (iii) Excessive refers to a condition that is conspicuously noticeable and that does seriously affect the appearance, desirability or eating quality of the product.

(3) *Discoloration* applies to all market forms. It refers to colors not normal to the species. This may be due to mishandling or the presence of blood, bile, or other substances.

- (i) *Slight:* 1/16 square inch up to and including one square inch in aggregate area.
- (ii) *Moderate:* greater than one square inch up to and including 2 square inches in aggregate area.
- (iii) *Excessive:* over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(4) *Uniformity* applies to size or weight controlled products. It refers to the degree of uniformity of the weights of the portions in the container. It is obtained by weighing individual portions to determine their conformity to declared weights. Uniformity will be assigned in accordance with weight tolerances as follows:

Weight of Portion

0.75 to 4.16 ounces

Moderate: Over c ounce but not over 1/4 ounce above or below declared weight of portion

Excessive: In excess of 1/4 ounce above or below declared weight of portion



4.17 to 11.20 ounces

Moderate: Over c ounce but not over $\frac{1}{2}$ ounce above or below declared weight of portion

Excessive: In excess of $\frac{1}{2}$ ounce above or below declared weight of portion

11.21 to 17.30 ounces

Moderate: Over c ounce but not over $\frac{3}{4}$ ounce above or below declared weight of portion

Excessive: In excess of $\frac{3}{4}$ ounce above or below declared weight of portion

(5) *Skinning* cuts apply to skinless market forms. It refers to improper cuts made during the skinning operation as evidenced by torn or ragged surfaces or edges, or gouges in the flesh which detract from a good appearance of the product.

- (i) *Slight*: 1/16 square inch up to and including 1 square inch in aggregate area.
- (ii) *Moderate*: Over one square inch up to and including 2 square inches in aggregate area.
- (iii) *Excessive*: Over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(6) *Heading* applies to market forms (1) and (2) is defined in Product Presentation(c) of this part. It refers to the presence of ragged cuts or pieces of gills, gill cover, pectoral fins or collar bone after heading. Deduction points also will be assigned when the product is presented with the collar bone and it has been completely or partially removed.

- (i) *Slight*: 1/16 square inch up to and including one square inch in aggregate area.
- (ii) *Moderate*: Over one square inch up to and including 2 square inches in aggregate area.
- (iii) *Excessive*: Over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(7) *Evisceration* applies to all market forms. It refers to the proper removal of viscera, kidney, spawn, blood, reproductive organs, and abnormal fat (leaf). The evisceration cut should be smooth and clean. Deduction points are based on the degree of defect.

- (i) *Slight*: 1/16 square inch up to and including 1 square inch in aggregate area.
- (ii) *Moderate*: Over 1 square inch up to and including 2 square inches in aggregate area.
- (iii) *Excessive*: Over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(8) *Fins* refer to the presence of fins, pieces of fins or dorsal spines. It applies to all market forms except headed and gutted or headed and dressed catfish or catfish steaks. Deduction points also will be assigned when the product is intended to have the dorsal spine but it has been completely or partially removed.

- (i) *Slight*: Aggregate area up to including one square inch.
- (ii) *Moderate*: Over one square inch area up to and including 2 square inches.
- (iii) *Excessive*: Over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.



(9) *Bones* (including pin bone) apply to all fillet and nugget market forms. Each bone defect is a bone or part of a bone that is 3/16 inch (0.48 cm) or more at its maximum length or 1/32 inch (0.08 cm) or more at its maximum shaft width, or for bone chips, a length of at least 1/16 inch (0.16 cm). An excessive bone defect is any bone which cannot be fitted into a rectangle that has a length of 1-9/16 inch (3.97 cm) and a width of d inch (0.95 cm). In market forms intended to contain bones, the presence of bones will not be considered a physical defect.

(10) *Skin* refers to the presence of skin on skinless market forms. For semi-skinned forms, a skin defect is the presence of the darkly pigmented outside layers. Points will be assessed for each aggregate area greater than 1/2 square inch up to and including one square inch.

(11) *Bloodspots* refer to the presence of coagulated blood. *Bruises* refer to softening and discoloration of the flesh. Both bloodspots and bruises apply to all market forms. Points will be assessed for each aggregate area of bloodspots or bruises greater than 1/2 square inch up to and including one square inch.

(12) *Foreign material* refers to any extraneous material, including packaging material, not derived from the fish that is found on or in the sample. Each occurrence will be assessed.

(13) *Texture* applies to all market forms and refers to the presence of normal texture properties of the cooked fish flesh, i.e., tender, firm, and moist without excess water. Texture defects are described as dry, tough, mushy, rubbery, watery, and stringy.

- (i) *Moderate*: Noticeably dry, tough, mushy, rubbery, watery, stringy.
- (ii) *Excessive*: Markedly dry, tough, mushy, rubbery, watery, stringy.

(e) *Listing defect points*. Each sample unit is examined for physical defects, using the list of definitions given in this section. The point deductions for defects are listed for each sample unit, and the point values totaled. The total of the defect points determines the sample unit grade. The scoring system is based on a perfect score of zero.

(f) *Grade assignment*. Each sample unit will be assigned a grade in accordance with the limits for defects summarized as follows:

Grade assignment	Flavor and odor	Maximum number of defect points
U.S. Grade A	Good	15
U.S. Grade B	Reasonably Good	30
U.S. Grade C	Reasonably Good	40

If a sample unit has been assigned a grade for flavor and odor different than the grade indicated by the number of defect points, the sample unit grade will be the lower grade.

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Tolerances for lot certification

- (a) The grade assigned to a lot is the grade indicated by the majority of the sample unit grades provided that the number of sample units in the next lower grade does not exceed the acceptance number as given in the sampling plans contained in §260.61 of this chapter. All of the sample units must meet the provisions of §260.21 of this chapter. In §260.21, the 4 score points are additive, not subtractive.
- (b) The grade assigned to a lot is one grade below the majority of all the sample unit grades if either:
- (1) The number of sample units in the next lower grade does exceed the acceptance number as given in the sampling plans contained in §260.61 of this chapter, or
 - (2) The grade of any one of the sample units is more than one grade below the majority of all the sample unit grades.

Hygiene

Products will be processed in official establishments as defined in §260.6 of this chapter and maintained in accordance with Scope and Product Description to Method of Analysis of this part and of the good manufacturing practice regulations contained in 21 CFR Part 110.

Methods of analysis

Product samples will be analyzed in accordance with the “Official Methods Analysis of the Association of Official Analytical Chemists”, (AOAC), Fourteenth Edition (1984), section 18.004 (page 331) and sections 32.059 and 32.060 (page 613) which are incorporated by reference. Copies of the AOAC methods may be obtained from AOAC, 1111 North Nineteenth Street, Arlington, VA 22209 and are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. This incorporation by reference was approved by the Director of the Federal Register on November 4, 1987. These methods are incorporated as they exist on the date of this approval. A notice of any change in the sections of the AOAC methods cited herein will be published in the FEDERAL REGISTER.



TABLE I-DEFECT TABLE SCHEDULE OF POINT DEDUCTIONS OF NORTH AMERICAN FRESHWATER CATFISH AND PRODUCTS MADE THEREFROM

[Per sample unit unless otherwise indicated]

Score factors	Degree of quality variation	Point value
Frozen products		
(1) Dehydration Each occurrence affect 3 to 10% of surface are but readily removed by scraping	Slight	5
Affecting more than 1% but not more than 10% of surface area and cannot be easily removed by scraping	Moderate	16
Affecting more than 10% of surface area and cannot be easily removed by scraping	Excessive	30
Fresh or Frozen Products		
(2) Condition of product (pertains to the entire package or container)	Slight	1
	Moderate	3
	Excessive	5
(3) Discoloration: 1/16 sq. in. to 1 sq. in	Slight	4
Over 1 sq. inch to 2 sq. inch	Moderate	9
Over 2 sq. inch and each additional complete 1 sq. inch	Excessive	15
(4) Uniformity: Deviation above or below declared weight of portion		
Weight of portion-Moderate:		
0.75 to 4.16 oz	Over 1/8 but not over 1/4 oz	5
4.17 to 11.20 oz	Over 1/8 but not over 1/2 oz	5
11.21 to 17.30 oz	Over 1/8 but not over 3/4 oz	5
Weight of portion-Excessive		
0.75 to 4.16 oz	Over 1/4 oz	10
4.17 to 11.20 oz	Over 1/2 oz	10
11.21 to 17.30 oz	Over 3/4 oz	10
Fresh or Thawed Products		
(5) Skinning cuts (skinless market forms only)		
1/16 sq. in. to 1 sq. in	Slight	1
Over 1 sq. inch to 2 sq. inch	Moderate	3
Over 2 sq. inch and each additional complete 1 sq. inch	Excessive	8
(6) Heading (H&G or H&D fish only):		
1/16 sq. in. to 1 sq. in	Slight	5
Over 1 sq. inch to 2 sq. inch	Moderate	16
Over 2 sq. inch and each additional complete 1 sq. inch	Excessive	30
(7) Evisceration:		
1/16 sq. in. to 1 sq. in	Slight	5
Over 1 sq. inch to 2 sq. inch	Moderate	16
2 sq. inch and over	Excessive	30
(8) Fins:		
Up to 1 sq. in	Slight	1
Over 1 sq. inch to 2 sq. inch	Moderate	5
Over 2 sq. inch	Excessive	10
(9) Bones (including pin bone):		
Bones : 3/16 in. long or 1/32 in. wide	Each occurrence	5
Bone chip: 1/16 in. long	Each occurrence	5
Excessive: 1 3/16 in. long by 3/8 in. wide rectangle	Each occurrence	10
(10) Skin (skinless market forms only): Over 1/2 sq. in. to 1 sq. in.	Each occurrence	5



Score factors	Degree of quality variation	Point value
(11) Bloodspots, bruises: Over 1/2 sq. in. to 1 sq. in.	Each occurrence	5
(12) Foreign matter: Harmless material	Each occurrence	4
Cooked Products		
(13) Texture	Moderate	5
	Excessive	16